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CENTRAL INTELLIGENCE AGENCY

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S-E-C-R-E-T

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25 YEAR RE-REVIEW

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COUNTRY Hungary/USSR

DATE DISTR. 28 July 1955
25X1SUBJECT Partial Conversion of Hungarian Plant
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PARTIAL CONVERSION OF [REDACTED] PLANT TO PRODUCTION OF ARTILLERY SHELLS 25X1

Origins of the Conversion Plan1. In late summer 1951, [REDACTED]

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[REDACTED] the Hungarian Minister of Heavy Industry Mihaly Zsofinyec, came to the plant to discuss [REDACTED] those facets of a plan for the wartime mobilization of Hungarian industry [REDACTED] This plan had originated from [REDACTED] Hungary's Minister of Defense.

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2. During the visit, Zsofinyec informed [REDACTED] that his plant would be required under the mobilization plan to carry out such modifications and preparations as would be required to convert the plant to production of artillery projectiles. He did not specify at this time either the caliber or the quantity required of such projectiles. He further informed [REDACTED] that such a conversion of the plant could be permanent, in that in addition to current production, the plant might be required to produce an unknown number of artillery projectiles each year. Zsofinyec then recommended [REDACTED] immediate planning for [REDACTED] the conversion and indicate what personnel would be charged with it.

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3. [redacted] called a meeting of all the plant key technical personnel and designated certain Hungarian technicians [redacted] to prepare plans and estimates for this conversion. [redacted] turned over [redacted] a list of the personnel who would accomplish this mission, so that they could be checked and cleared for security by the Hungarian equivalent of the Soviet MGB. [redacted] about 15 to 20 [redacted] persons were on this list. A few days after Zsófinyec's visit, an unknown Hungarian army major in uniform arrived at the plant and was presented [redacted] by the plant's Assistant General Director for Personnel Matters. The latter, a Hungarian named Boldizsár (fnu), was also the plant security chief. The major informed [redacted] that he had been sent by the Minister of Heavy Industry "to convert the plant to the production of 80-mm. and 152-mm. artillery projectiles".

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The Conversion Planning Process

4. The Hungarian army major had brought with him an assortment of blueprints containing the specifications of 85-mm. and 152-mm. artillery projectiles. The blueprints were in Russian and first had to be translated by the plant's Hungarian technicians before any other action could be taken on them. The major then held a series of meetings with the plant technicians [redacted] to prepare the plans and estimates for the conversion. The specific mission assigned to the plant was to determine what additional equipment would be needed and what conversion of current machinery, equipment, and buildings would be necessary to convert the plant to a wartime annual production of approximately 300,000 artillery projectiles of 85-mm. and 152-mm. caliber. Without interrupting current production [redacted]

5. After a conference with [redacted] Hungarian technical advisers, [redacted] was forced to admit to the Hungarian major that the plant could accept the plans for 85-mm. projectiles and could submit an estimate for their production. However, in order to convert to 152-mm. projectile production, the following deficiencies would have to be corrected:

a. Only three lathes in the entire plant were capable of turning a 152-mm. artillery projectile, and these were needed for current work. Therefore, an additional number of lathes would have to be purchased by the plant.

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b. The conversion of the three lathes mentioned above was not practical since current production was to continue undiminished and uninterrupted. Converting these lathes each day from projectile-turning to the ordinary work and back again would be very time-consuming.

c. In order to prepare for the installation of these additional lathes, it would be necessary to build another building at the plant.

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d. The existing number of plant personnel could not cope with the additional work load of manning the new equipment. Therefore, additional personnel would be required to expand the factory if 152-mm. projectiles were to be produced. Such additional hiring was not practicable until it was certain that the plant would be required to produce a given number of such projectiles annually.

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6. In reply [] the major recommended that a detailed study be drawn up outlining the plant's present production capacity and what additions would be necessary to comply with the original directive. He then stated that the plant should begin a practice production of 85-mm. artillery projectiles as soon as possible. He further stated that it would not be necessary to install hot presses to mold the rough cases of the projectiles, since this work would be done at the Hungarian Rákosi Combine for the purposes of the intended practice production. 25X1

7. The study required by the major was prepared and a total cost estimate submitted for approval to the Hungarian Ministry of Heavy Industry. 25X1

a. One new building would be required to house the large lathes to turn 152-mm. projectiles.

b. A certain number of new heavy lathes and one or two six-or-seven-thousand-ton hydraulic presses would have to be purchased.

c. An old building then currently unused would have to be rebuilt to house the hot ovens and hydraulic presses.

d. An unknown number of additional workers would have to be hired.

e. Additional funds would have to be allocated to pay overtime to permanent plant personnel who would be preparing for the trial production of 85-mm. projectiles.

f. The total cost of this plant conversion would amount to 12,000,000 Hungarian forints which was estimated [] to be equal to 3,430,000 Soviet rubles. 25X1

8. [] received [] approval to spend only 6,000,000 forints. The minister sanctioned only the necessary preparation for the production of 85-mm. projectiles. The production of 152-mm. projectiles was temporarily disapproved for his plant, and planning for such production was to be suspended. [] was instructed to request the Rákosi Combine to prepare the rough casts of the 85-mm. projectiles for his plant. [] in the event of industrial mobilization, his plant would receive the necessary lathes and press equipment for the 152-mm. projectile production 25X1

9. After the Hungarian Ministry of Heavy Industry had thus approved production and conversion plans, [] had to check them and gain the concurrence of Dekanosov who was a deputy chief of GUSIMZ and chief of the Third Directorate of GUSIMZ, which controlled the Directorate of Soviet Property Abroad in Hungary (USIV), Bulgaria (USIB), and Rumania (USIR). [] asked [] for [] permission to comply with the ministry's plans, and Dekanosov promised to check them with the GUSIMZ organization. After two or three days, Dekanosov called [] informed [] that there would be no written instruction from the USSR but that he was to comply in every way with the desires of the Hungarian government in this matter. Receiving this verbal approval from his superior in the fall of 1951, [] started the necessary work [] to do such conversion as was necessary for the practice production of 85-mm. artillery projectiles. 25X1

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Execution of the Conversion Plan

10. The work commenced, and all plant personnel were asked to volunteer as much overtime labor as possible. This overtime system was pseudo-voluntary because each individual was pressured by the plant Party organizations to stay at work as long as possible. Some personnel stayed at work as long as five straight days through this period of conversion and trial production of shells. They slept by their lathes and worked straight through the week-ends. All were paid overtime during this period, according to the then accepted wage scale. According to this scale, they received time and a half for the first two hours above the normal 60-hour work week and double time for all additional hours. [redacted] attempted to reach an agreement 25X1 with the union that he would authorize compensatory time off for all overtime, to be taken at a later time when work had slacked off. The union, however, refused this suggestion in spite of the fact [redacted] 25X1 that this was the accepted custom in the USSR.

11. Building interiors were re-arranged to expedite the work flow, and the old unused building was rebuilt by the plant personnel to house the presses when and if they arrived. Construction was even started on a new building to house the lathes which would be needed possibly later for 152-mm. projectile turning, in spite of the fact that they were not called for in the plan. [redacted] wished to 25X1 demonstrate [redacted] initiative and ability to surpass requirements by 25X1 constructing this building. The major portion of the conversion work was accomplished by night and Sunday work by the permanent plant personnel. No additional labor was hired. By February 1952, everything was ready to begin the trial run of 85-mm. projectiles. Approximately 30 lathes had been designated to turn them out. Fifteen of these had required a modification consisting of templates to guide the cutters in turning the projectiles. The other 15 lathes were assigned a different step of the work which required no modification of the original lathe.

12. An arrangement had been made with the Rákosi Combine to have it produce the rough casts. Two or three of the [redacted] personnel were sent to the Rákosi Combine to observe the production methods utilizing the hot presses, and the combine purchased an unidentified six-or-seven-thousand-ton hydraulic press from some unknown plant in Austria, to be able to absorb the additional work load.

Trial Production of 85-mm. Artillery Projectiles

13. In the first week of February 1952, [redacted] plant received about 3,000 rough-cast 85-mm. projectiles from the Rákosi Combine. These had the base recesses already hollowed out by the hot press process by the combine's hydraulic presses. (See Figure 1, page 7, for a sketch of the shell at this stage of processing.) They arrived in one shipment. After from 20 to 30 working days, all of the 3,000 projectiles were completed by [redacted] plant and sent back to the combine for attachment of fuses, loading with explosives, and fitting into shell cases. [redacted] the shell cases had been prepared at an otherwise unidentified plant called [redacted] Zavod Kahalovar which was a brass factory. [redacted]

4. The basic steps of the production process [redacted] were divided into three parts [redacted] Parts one and two were accomplished on the 15 lathes without the guiding template modification, and part three was accomplished on the 15 lathes with the guiding templates. The guiding templates themselves were made in [redacted]

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plant after being designed by its Hungarian engineers, using the Soviet blueprints as a guide.

- a. The First Step - this step consisted of three sub-operations (see Figure 2 on page 7). The first, which took approximately two minutes, consisted of mounting the rough-cast projectile on the lathe. The second sub-operation was the cutting-off of the forward portion of the rough cast to specification. This took about three minutes. The third sub-operation was drilling out the fuse recess and at the same time cutting threads for the insertion of a fuse. This required about eight minutes. The shell was then transferred to another unmodified lathe for the second part.
- b. The Second Step - this step consisted of two sub-operations (see Figure 3 on page 7). The first was remounting the projectile on a lathe, which took about two minutes. The second sub-operation was the cutting off of the base and drilling the powder chamber and the channel for the powder train, as well as cutting threads for the base plug. After this operation, which took about 15 minutes, the projectile went on to one of the 15 modified lathes for part three.
- c. The Third Step - this step consisted of two sub-operations (see Figure 4 on page 7). The first was remounting the projectile on the modified lathe, which took about three minutes because the guiding template had to be adjusted. The second consisted of turning the projectile to the appropriate diameter, and cutting two grooves for the rotating bands. Approximately 20 mm. of outside diameter was turned off the rough casting received from the Rakosi Combine to bring the projectile to 85-mm. specifications.

15. The entire time required to turn out one complete projectile was estimated [] to be about 30 to 40 minutes. He believed that because of the inexperience of plant personnel in this type of production, the total number of rejects from the trial run of 3,000 projectiles was 20 to 25 percent. He pointed out, however, that the plant was not specially designed for this type of production, that most of the equipment was jury-rigged to do the job, and that the plant personnel were required to produce their normal output during this entire period.

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Steps Taken After Trial Production

16. After the trial production of the 85-mm. projectiles was completed, the equipment used for this which was not needed for normal production was stored in the building that was rebuilt to house the hydraulic presses. This building was then locked up. For a long subsequent period, [] did not know if [] plant was going to be required to produce any more projectiles. [] received no further instructions on the output of additional 85-mm. projectiles. [] this portion of the conversion plan was all but forgotten. At or about the end of March 1952, a prepared plan came from the Ministry of Defense outlining what steps would be taken [] if it was required to produce 152-mm. projectiles. Since his plant did not have the necessary equipment to accomplish this and since the plan was extremely tentative at any rate, [] did not pay close attention to it but filed it away. [] never called by anyone either to comment on or implement this plan, and he knew nothing about its details.

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PLANT PARTICIPATION IN ALLEGED CIVIL-DEFENSE PROGRAM

Production of Civil-Defense Equipment

17. In late summer 1951, an unknown uniformed Hungarian officer came to [] plant with instructions to see that a number of different activities related to the then-current Hungarian industrial and civil-defense program were carried out [] 2 [] plant was required to rehabilitate all existing World War II air-raid sirens that had been sent from Germany to Hungary during that conflict. The explanation [] was that [] sirens had been manufactured in Germany and [] plant had been constructed by the Germans, it was obvious that [] plant was best equipped to handle this work. During the next five months, [] plant either examined or rebuilt about 2,000 of these German-made air-raid warning sirens. They arrived at the plant from other plants all over Hungary, in lots of 10 to 15. Some were in perfect condition and needed only painting and cleaning, while others required major overhauls and replacement of parts. The latter had to be made at the plant. 25X1 25X1 25X1 25X1 25X1

Plant Air-Raid Shelters

18. In conjunction with this air-raid siren program, [] received instructions from the Hungarian Ministry of Defense to clean up all underground areas of [] plant buildings and to convert these to air-raid shelters. [] the plant basements were cleaned up, ventilators were installed, and tables and chairs were put there. Also [] plant's sirens were taken down, put into working condition, and reinstalled. The total cost of these preparations was charged directly to the Hungarian government. No further action was taken by the plant for civil defense [] 25X1 25X1 25X1 25X1 25X1

2. [] Comment: [] this aforementioned program the FVKHO (Protivozdushaya Khimicheskaya Oborona, or Air-Chemical Defense). 25X1

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Sketch of Four Phases of 85-mm Projectile Production



Fig. #1

Appearance of rough cast of 85-mm projectile as received from Combin Rakoqi

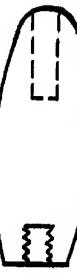


Fig. #2

Appearance of projectile after first production step.



Fig. #3

Appearance of projectile after second production step.



Fig. #4

Appearance of projectile after third production step.

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